270412

```
          3079 NEURAL
         73478 STEM

        298860 CELL?
L1           0 NEURAL(W)STEM(W)CELL?
=> s stem(3w)cell?

         73478 STEM
        298860 CELL?
L2         769 STEM(3W)CELL?
=> s l2 and (brain or neuron or astrocyte or glial)
         14138 BRAIN
          1278 NEURON
            57 ASTROCYTE
           378 GLIAL
L3         124 L2 AND (BRAIN OR NEURON OR ASTROCYTE OR GLIAL)
=> s l3 and neurosphere?
             0 NEUROSPHERE?
L4           0 L3 AND NEUROSPHERE?
=> s l3 and (aggregate? or clump? or clon?)
         30680 AGGREGATE?
          6924 CLUMP?
         11041 CLON?
L5         101 L3 AND (AGGREGATE? OR CLUMP? OR CLON?)
=> s l3 and clon?
         11041 CLON?
L6          95 L3 AND CLON?
=> s l6 and multipotent?
             98 MULTIPOTENT?
L7           16 L6 AND MULTIPOTENT?
=> d l7 1-16 cit,ab
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1. 5,443,950, Aug. 22, 1995, Three-dimensional cell and tissue culture system; Gail K. Naughton, et al., 435/1; 424/529, 530, 534, 572, 574; 435/240.1, 240.2, 240.23, 240.243; 623/15 [IMAGE AVAILABLE]

US PAT NO: 5,443,950 [IMAGE AVAILABLE] L7: 1 of 16

ABSTRACT:
The present invention relates to a three-dimensional cell culture system which can be used to culture a variety of different cells and tissues in vitro for prolonged periods of time. In accordance with the invention, cells derived from a desired tissue are inoculated and grown on a pre-established stromal support matrix. The stromal support matrix comprises stromal cells, such as fibroblasts actively growing on a three-dimensional matrix. Stromal cells may also include other cells found in loose connective tissue such as endothelial cells, macrophages/monocytes, adipocytes, pericytes, reticular cells found in

bone marrow stroma, etc. The stromal matrix provides the support, cellular factors, and regulatory factors necessary to sustain long-term active proliferation of cells in culture. When grown in this three-dimensional system, the proliferating cells mature and segregate properly to form components of adult tissues analogous to counterparts found in vivo.

2. 5,367,057, Nov. 22, 1994, Tyrosine kinase receptor flk-2 and fragments thereof; Ihor R. Lemischka, 530/350, 403 [IMAGE AVAILABLE]

US PAT NO: 5,367,057 [IMAGE AVAILABLE] L7: 2 of 16

ABSTRACT:
Isolated mammalian nucleic acid molecules encoding receptor protein tyrosine kinases expressed in primitive hematopoietic cells and not expressed in mature hematopoietic cells are provided. Also included are the receptors encoded by such nucleic acid molecules; the nucleic acid molecules encoding receptor protein tyrosine kinases having the sequences shown in FIG. 1 (murine flk-2), FIG. 2 (human flk-2) and FIG. 3 (murine flk-1); the receptor protein tyrosine kinases having the amino acid sequences shown in FIG. 1 (murine flk-2); FIG. 2 (human flk-2) and FIG. 3; ligands for the receptors; nucleic acid sequences that encode the ligands; and methods of stimulating the proliferation and/or differentiation of primitive mammalian hematopoietic **stem** **cells** comprising contacting the **stem** **cells** with a ligand that binds to a receptor protein tyrosine kinase expressed in primitive mammalian hematopoietic cells and not expressed in mature hematopoietic cells.

3. 5,342,776, Aug. 30, 1994, Avian hemopoietic progenitor cells; Marie C. N. Bolnet, et al., 435/240.2; 424/93.2, 93.21, 93.7, 577, 582; 435/240.21, 240.23 [IMAGE AVAILABLE]

US PAT NO: 5,342,776 [IMAGE AVAILABLE] L7: 3 of 16

ABSTRACT:
Avian hemopoietic progenitor cells of an earlier ontogenic stage than heretofore obtained are disclosed. The cells are produced by culturing suitable cells in a media containing avian embryo extract. Chicken hemopoietic progenitor cells and chicken embryo extract are preferred. Also disclosed are veterinary pharmaceutical formulations comprised of the earlier stage hemopoietic progenitor cells.

4. 5,338,839, Aug. 16, 1994, DNA encoding nestin protein; Ronald D. G. McKay, et al., 536/23.5; 435/6, 91.2; 536/24.31; 935/9, 11, 78 [IMAGE AVAILABLE]

US PAT NO: 5,338,839 [IMAGE AVAILABLE] L7: 4 of 16

ABSTRACT:
A gene (SEQ ID NO: 1 or SEQ ID NO: 3) encoding a protein, nestin, whose expression distinguishes neural **multipotential** **stem** **cells** and **brain** tumor cells from the more differentiated neural cell types (e.g., neuronal, **glial** and muscle cells).

5. 5,283,354, Feb. 1, 1994, Nucleic acids encoding hematopoietic **stem** **cells** receptors flk-1; Ihor R. Lemischka, 536/23.5; 435/69.1; 530/350, 403 [IMAGE AVAILABLE]

US PAT NO: 5,283,354 [IMAGE AVAILABLE] L7: 5 of 16

ABSTRACT:
Isolated mammalian nucleic acid molecules encoding receptor protein tyrosine kinases expressed in primitive hematopoietic cells and not expressed in mature hematopoietic cells are provided. Also included are the receptors encoded by such nucleic acid molecules; the nucleic acid molecules encoding receptor protein tyrosine kinases having the sequences shown in FIG. 1(flk-2) and FIG. 2 (flk-1); the receptor protein tyrosine kinases having the amino acid sequences shown in FIG. 1(flk-2) and FIG. 2 (flk-1); ligands for the receptors; nucleic acid sequences that encode the ligands; and methods of stimulating the proliferation of primitive mammalian hematopoietic **stem** **cells** comprising contacting the **stem** **cells** with a ligand that binds to a receptor protein tyrosine kinase expressed in primitive mammalian hematopoietic cells and not expressed in mature hematopoietic cells.

6. 5,273,889, Dec. 28, 1993, Gamma-iterferon-leukotoxin gene fusions and uses thereof; Andrew Potter, et al., 435/69.51, 69.5, 69.52, 69.7, 172.3, 243, 252.3, 320.1, 811; 536/23.1 [IMAGE AVAILABLE]

US PAT NO: 5,273,889 [IMAGE AVAILABLE] L7: 6 of 16

ABSTRACT:
New chimeric proteins, DNA encoding the same, and the use of these proteins in stimulating immunity against respiratory diseases such as pneumonia, including shipping fever pneumonia, are disclosed. The chimeric proteins include at least one epitope of leukotoxin fused to an active fragment of a cytokine. The chimeric proteins can be used in a vaccine composition. Also disclosed are methods of vaccination as well as methods of making the proteins employed in the vaccines.

7. 5,270,458, Dec. 14, 1993, Nucleic acids encoding fragments of hematopoietic **stem** **cell** receptor flk-2; Ihor R. Lemischka, 536/23.5; 435/69.1, 320.1; 530/350, 403 [IMAGE AVAILABLE]

US PAT NO: 5,270,458 [IMAGE AVAILABLE] L7: 7 of 16

ABSTRACT:
Isolated mammalian nucleic acid molecules encoding receptor protein tyrosine kinases expressed in primitive hematopoietic cells and not expressed in mature hematopoietic cells are provided. Also included are the receptors encoded by such nucleic acid molecules; the nucleic acid molecules encoding receptor protein tyrosine kinases having the sequences shown in FIG. 1a (murine flk-2), FIG. 1b (human flk-2) and FIG. 2 (murine flk-1); the receptor protein tyrosine kinases having the amino acid sequences shown in FIG. 1a, FIG. 1b and FIG. 2; ligands for the receptors; nucleic acid sequences that encode the ligands; and methods of stimulating the proliferation and/or differentiation of primitive mammalian hematopoietic **stem** **cells** comprising contacting the **stem** **cells** with a ligand that binds to a receptor protein tyrosine kinase expressed in primitive mammalian hematopoietic cells and not expressed in mature hematopoietic cells.

8. 5,266,480, Nov. 30, 1993, Three-dimensional skin culture system; Gail [illegible]

US PAT NO: 5,266,480 [IMAGE AVAILABLE] L7: 8 of 16

ABSTRACT:
The present invention relates to a three-dimensional cell culture system which can be used to culture a variety of different cells and tissues in vitro for prolonged periods of time. In accordance with the invention,

cells derived from a desired tissue are inoculated and grown on a pre-established stromal support matrix. The stromal support matrix comprises stromal cells, such as fibroblasts actively growing on a three-dimensional matrix. Stromal cells may also include other cells found in loose connective tissue such as endothelial cells, macrophages/monocytes, adipocytes, pericytes, reticular cells found in bone marrow stroma, etc. The stromal matrix provides the support, growth factors, and regulatory factors necessary to sustain long-term active proliferation of cells in culture. When grown in this three-dimensional system, the proliferating cells mature and segregate properly to form components of adult tissues analogous to counterparts found in vivo.

9. 5,238,823, Aug. 24, 1993, Interleukin-2-leukotoxin gene fusions and uses thereof; Andrew Potter, et al., 435/69.52, 69.1, 69.3, 69.5, 69.7, 172.3, 240.1, 243, 252.3, 320.1; 536/23.4; 935/22, 24, 27, 47, 66 [IMAGE AVAILABLE]

US PAT NO: 5,238,823 [IMAGE AVAILABLE] L7: 9 of 16

ABSTRACT:
New chimeric proteins, DNA encoding the same, and the use of these proteins in stimulating immunity against respiratory diseases such as pneumonia, including shipping fever pneumonia, are disclosed. The chimeric proteins include at least one epitope of leukotoxin fused to an active fragment of a cytokine. The chimeric proteins can be used in a vaccine composition. Also disclosed are methods of vaccination as well as methods of making the proteins employed in the vaccines.

10. 5,192,553, Mar. 9, 1993, Isolation and preservation of fetal and neonatal hematopoietic **stem** and progenitor **cells** of the blood and methods of therapeutic use; Edward A. Boyse, et al., 424/529; 435/2, 172.1, 172.3, 240.2, 240.26 [IMAGE AVAILABLE]

US PAT NO: 5,192,553 [IMAGE AVAILABLE] L7: 10 of 16

ABSTRACT:
The present invention relates to hematopoietic **stem** and progenitor **cells** of neonatal or fetal blood that are cryopreserved, and the therapeutic uses of such **stem** and progenitor **cells** upon thawing. In particular, the present invention relates to the therapeutic use of fetal or neonatal **stem** **cells** for hematopoietic (or immune) reconstitution. Hematopoietic reconstitution with the cells of the invention can be valuable in the treatment or prevention of various diseases and disorders such as anemias, malignancies, autoimmune disorders, and various immune dysfunctions and deficiencies. In another embodiment, fetal or neonatal hematopoietic **stem** and progenitor **cells** which contain a heterologous gene sequence can be used for hematopoietic reconstitution in gene therapy. In a preferred embodiment

of the invention, neonatal or fetal blood cells that have been cryopreserved and thawed can be used for utologous (self) reconstitution.

11. 5,185,438, Feb. 9, 1993, Nucleic acids encoding hencatoporetic **stem** **cell** receptor flk-2; Ihor R. Lemischka, 536/23.2; 435/69.1, 320.1; 530/350, 403 [IMAGE AVAILABLE]

US PAT NO: 5,185,438 [IMAGE AVAILABLE] L7: 11 of 16

ABSTRACT:
Isolated mammalian nucleic acid molecules encoding receptor protein tyrosine kinases expressed in primitive hematopoietic cells and not expressed in mature hematopoietic cells are provided. Also included are the receptors encoded by such nucleic acid molecules; the nucleic acid molecules encoding receptor protein tyrosine kinases having the sequences shown in FIG. 1 (flk-2) and FIG. 2 (flk-1); the receptor protein tyrosine kinases having the amino acid sequences shown in FIG. 1 (flk-2) and FIG. 2 (flk-1); ligands for the receptors; nucleic acid sequences that encode the ligands; and methods of stimulating the proliferation of primitive mammalian hematopoietic **stem** **cells** comprising contacting the **stem** **cells** with a ligand that binds to a receptor protein tyrosine kinase expressed in primitive mammalian hematopoietic cells and not expressed in mature hematopoietic cells.

12. 5,175,103, Dec. 29, 1992, Preparation of pure cultures of post-mitotic human neurons; Virginia Lee, et al., 435/172.3, 240.2 [IMAGE AVAILABLE]

US PAT NO: 5,175,103 [IMAGE AVAILABLE] L7: 12 of 16

ABSTRACT:
NTera 2/cl.D1 (NT2) cells, a human teratocarcinoma cell line, were manipulated following retinoic acid (RA) treatment to yield>95% pure cultures of neuronal cells (NT2-N cells). This culture method is capable of yielding sufficient highly differentiated post-mitotic NT2-N cells for both biochemical and molecular biological studies. NT2 cells can be transfected efficiently and the transfected gene products can be expressed in both NT2 and NT2-N cells.

13. 5,160,490, Nov. 3, 1992, Three-dimensional cell and tissue culture apparatus; Gail K. Naughton, et al., 435/284, 1, 29, 32, 240.23, 240.243; 436/63 [IMAGE AVAILABLE]

US PAT NO: 5,160,490 [IMAGE AVAILABLE] L7: 13 of 16

ABSTRACT:
The present invention relates to a three-dimensional cell culture system which can be used to culture a variety of different cells and tissues in vitro for prolonged periods of time. In accordance with the invention, cells derived from a desired tissue are inoculated and grown on a pre-established stromal support matrix. The stromal support matrix comprises stromal cells, such as fibroblasts actively growing on a three-dimensional matrix. Stromal cells may also include other cells found in loose connective tissue such as endothelial cells, macrophages/monocytes, adipocytes, pericytes, reticular cells found in bone marrow stroma, etc. The stromal matrix provides the support, growth

factors, and regulatory factors necessary to sustain long-term active proliferation of cells in culture. When grown in this three-dimensional system, the proliferating cells mature and segregate properly to form components of adult tissues analogous to counterparts found in vivo.

14. 5,032,508, Jul. 16, 1991, Three-dimensional cell and tissue culture system; Gail K. Naughton, et al., 435/32, 1, 29, 240.23, 240.243; 436/63 [IMAGE AVAILABLE]

US PAT NO: 5,032,508 [IMAGE AVAILABLE] L7: 14 of 16

ABSTRACT:
The present invention relates to a three-dimensional cell culture system which can be used to culture a variety of different cells and tissues in vitro for prolonged periods of time. In accordance with the invention, cells derived from a desired tissue are inoculated and grown on a pre-established stromal support matrix. The stromal support matrix comprises stromal cells, such as fibroblasts actively growing on a three-dimensional matrix. Stromal cells may also include other cells found in loose connective tissue such as endothelial cells, macrophages/monocytes, adipocytes, pericytes, reticular cells found in bone marrow stroma, etc. The stromal matrix provides the support, growth factors, and regulatory factors necessary to sustain long-term active proliferation of cells in culture. When grown in this three-dimensional system, the proliferating cells mature and segregate properly to form components of adult tissues analogous to counterparts found in vivo.

15. 5,004,681, Apr. 2, 1991, Preservation of fetal and neonatal hematopoietic **stem** and progenitor **cells** of the blood; Edward A. Boyse, et al., 435/2; 424/529 [IMAGE AVAILABLE]

US PAT NO: 5,004,681 [IMAGE AVAILABLE] L7: 15 of 16

ABSTRACT:
The present invention relates to hematopoietic **stem** and progenitor **cells** of neonatal or fetal blood that are cryopreserved, and the therapeutic uses of such **stem** and progenitor **cells** upon thawing. In particular, the present invention relates to the therapeutic use of fetal or neonatal **stem** **cells** for hematopoietic (or immune) reconstitution. Hematopoietic reconstitution with the cells of the invention can be valuable in the treatment or prevention of various diseases and disorders such as anemias, malignancies, autoimmune disorders, and various immune dysfunctions and deficiencies. In another embodiment, fetal or neonatal hematopoietic **stem** and progenitor **cells** which contain a heterologous gene sequence can be used for hematopoietic reconstitution in gene therapy. In a preferred embodiment of the invention, neonatal or fetal blood cells that have been cryopreserved and thawed can be used for autologous (self) reconstitution.

16. 4,963,489, Oct. 16, 1990, Three-dimensional cell and tissue culture system; Gail K. Naughton, et al., 435/240.1; 424/529, 530, 534, 572, 574; 435/1, 2, 240.2, 240.21, 240.23 [IMAGE AVAILABLE]

US PAT NO: 4,963,489 [IMAGE AVAILABLE] L7: 16 of 16

ABSTRACT:

The present invention relates to a three-dimensional cell culture system which can be used to culture a variety of different cells and tissues in vitro for prolonged periods of time. In accordance with the invention, cells derived from a desired tissue are inoculated and grown on a pre-established stromal support matrix. The stromal support matrix comprises stromal cells, such as fibroblasts, grown to subconfluence on a three-dimensional matrix. Stromal cells may also include other cells

found in loose connective tissue such as endothelial cells, macrophages/monocytes, adipocytes, pericytes, reticular cells found in bone marrow stroma, etc. The stromal matrix provides the support, growth factors, and regulatory factors necessary to sustain long-term active proliferation of cells in culture. When grown in this three-dimensional system, the proliferating cells mature and segregate properly to form components of adult tissues analogous to counterparts found in vivo.

```
=> e weiss, samuel/in
E1            6     WEISS, RUDOLF/IN
E2            2     WEISS, SAM/IN
E3            2 --> WEISS, SAMUEL/IN
E4            1     WEISS, SAMUEL HERMAN/IN
E5            1     WEISS, SAMUEL M/IN
E6            1     WEISS, SCOTT A/IN
E7            1     WEISS, SHELDON M/IN
E8            1     WEISS, SHERMAN L/IN
E9            2     WEISS, SHIMON/IN
E10           1     WEISS, SHIRLEY I/IN
E11           1     WEISS, SHIRLEY I DECEASED/IN
E12           4     WEISS, SIDNEY/IN
=> s e2-e55
              2 "WEISS, SAM"/IN
              2 "WEISS, SAMUEL"/IN
              1 "WEISS, SAMUEL HERMAN"/IN
              1 "WEISS, SAMUEL M"/IN
L8            6 ("WEISS, SAM"/IN OR "WEISS, SAMUEL"/IN OR "WEISS, SAMUEL HE
RMA
                N"/IN OR "WEISS, SAMUEL M"/IN)
=> d l8 1-6 cit

1.  D 287,909, Jan. 27, 1987, Recreational lounge; **Samuel M. Weiss**,
D6/329, 360, 382, 386; D21/235 [IMAGE AVAILABLE]

2.  D 270,726, Sep. 27, 1983, Miniature telephone enclosure; **Samuel
Weiss**, D14/143; D25/16 [IMAGE AVAILABLE]

3.  4,381,288, Apr. 26, 1983, Mercury brine sludge treatment; **Samuel
Weiss**, et al., 423/101; 210/901; 423/109 [IMAGE AVAILABLE]

4.  4,069,997, Jan. 24, 1978, Waste receptacle cam lock with locking
projection; **Sam Weiss**, 248/553, 313, 907; 292/67 [IMAGE AVAILABLE]

5.  3,803,738, Apr. 16, 1974, ADVERTISING FRAME FOR USE ON A WASTE
RECEPTACLE; **Sam Weiss**, 40/306, 611; 220/210, 334; D34/1 [IMAGE
AVAILABLE]

6.  3,769,920, Nov. 6, 1973, FOLDING TABLE LEG LOCKING DEVICE; **Samuel
Herman Weiss**, 108/133 [IMAGE AVAILABLE]
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E1            1     REYNOLDS, BLAKE W/IN
E2            1     REYNOLDS, BRADLEY D/IN
E3            0 --> REYNOLDS, BRENT A/IN
E4            1     REYNOLDS, BRETT S/IN
E5            1     REYNOLDS, BRIAN C/IN
E6            2     REYNOLDS, BRIAN E/IN
E7            1     REYNOLDS, BRIAN L/IN

E8            2     REYNOLDS, BRIAN R/IN
E9            5     REYNOLDS, BRUCE A/IN
E10           2     REYNOLDS, BRUCE C/IN
E11           8     REYNOLDS, BRUCE E/IN
E12           1     REYNOLDS, BRUCE R/IN
=> e gage, frederick/in
E1            1     GAGE, FRANKLIN A/IN
E2            1     GAGE, FRED H/IN
E3            0 --> GAGE, FREDERICK/IN
E4            3     GAGE, GARY W/IN
E5            1     GAGE, GENE F SR/IN
E6            1     GAGE, GEORGE J/IN
E7            1     GAGE, HOMER D/IN
E8            1     GAGE, JEFFREY C/IN
E9            1     GAGE, JOHN/IN
E10           2     GAGE, JOHN C/IN
E11           1     GAGE, JOHN W/IN
E12           1     GAGE, JULIE E/IN
=> s e2
L9            1 "GAGE, FRED H"/IN
=> d l9 cit

1.  5,082,670, Jan. 21, 1992, Method of grafting genetically modified
cells to treat defects, disease or damage or the central nervous system;
**Fred H. Gage**, et al., 424/520, 570; 435/172.3, 240.2, 948; 514/44;
935/62, 70 [IMAGE AVAILABLE]
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U.S. Patent & Trademark Office LOGOFF AT 10:14:09 ON 15 SEP 95
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